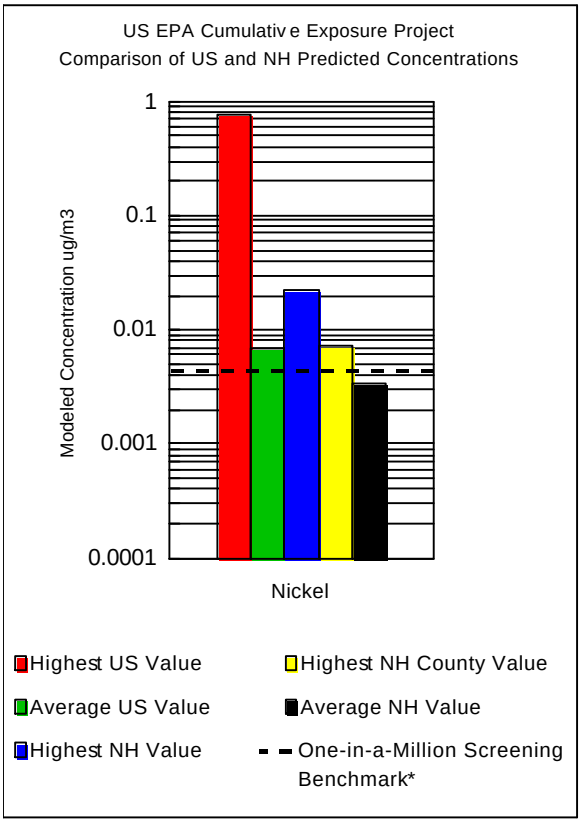
Health Effects Information for Toxic Air Pollutants of Concern in New Hampshire
(as identified in the US EPA Cumulative Exposure Project)

NICKEL COMPOUNDS



CEP Concentration Data (ug/m3)	
CEP Screening Benchmark*	0.0042
CEP Background Concentration	n/a
Maximum US Concentration	0.78
Average US Concentration	0.0069
Maximum NH Concentration	0.023
Maximum NH County Concentration	0.0073
Average NH Concentration	0.0034

NH CEP Concentration Comparison Summary	
Percent by wt. of all toxics evaluated in the CEP	0.025%
NH highest value as a % of US highest value	2.9%
NH average value as a % of US average value	49%
NH highest value as a % of US average value	329%
NH avg. as a % of CEP Screening Benchmark*	81%

Source Apportionment in NH**	
% contribution from Point Sources	28.7%
% contribution from Area Sources	68.8%
% contribution from Mobile Sources	2.6%

Overview of Health Effects
Known carcinogen, based on human data in which exposure to nickel refinery dust caused lung and nasal tumors in sulfide nickel matte refinery workers in several epidemiologic studies in different countries, and on animal data in which tumors were produced in rats by inhalation and injection. Noncancer effects include chronic bronchitis and reduced lung function observed in workers who breathed high levels. Allergic reaction is common and people may become sensitized from direct contact, inhalation or ingestion.

Carcinogenicity Classification	
Known Human Carcinogen	(EPA Group A)

* In developing the CEP, EPA established screening benchmark concentrations for each modeled toxic air pollutant below which there is likely to be no public health concern. To estimate potential cancer concerns, the CEP used a screening benchmark of 1-in-a-million excess risk of cancer. A risk level of 1-in-a-million means that one person out of one million equally exposed people would potentially contract cancer if exposed continuously (24 hours per day) to the specified concentration over 70 years (an assumed lifetime). This one case would be in addition to the number of cancer cases that would nornally occur in a normally exposed population of one million people.

** Source apportionment reflects the estimated contribution from each of the three source categories. Point sources include major industrial emission sources such as power plants and manufacturing plants . Area sources are typically smaller sources such as gasoline stations, dry cleaners, auto body shops, and the use of consumer products in the home. Mobile sources include emissions from automobiles, trucks and buses.